

Title	円系表面ニツイテ
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449. 円系表面ニツイテ

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$f(t, \tau) = \alpha$ ナル曲線群ニ垂直ナル曲線群ハ円系表面デ

$$(1) \left\{ (\theta_t \theta_t) \frac{\partial f}{\partial \tau} - (\theta_t \theta_\tau) \frac{\partial f}{\partial t} \right\} dt + \left\{ (\theta_t \theta_\tau) \frac{\partial f}{\partial \tau} - (\theta_\tau \theta_\tau) \frac{\partial f}{\partial t} \right\} d\tau = 0$$

トナル、コトニ α ハ parameter ナル。

サテ (1) ヨリ

$$(2) \quad p \equiv \frac{dt}{d\tau} = \frac{-(\theta_t \theta_\tau) \frac{\partial f}{\partial \tau} + (\theta_\tau \theta_\tau) \frac{\partial f}{\partial t}}{(\theta_t \theta_t) \frac{\partial f}{\partial \tau} - (\theta_t \theta_\tau) \frac{\partial f}{\partial t}}$$

トオケバ

$$(3) \quad F\left(t, \tau, \frac{p-m}{1+mp}\right) = 0$$

ハ

$$(4) \quad F(t, \tau, p) = 0$$

ヲ oblique trajectories ナル。

尚亦前=モノベシ様ニ

$$(5) \quad \textcircled{H} dt^2 + 2\Phi dt d\tau + \Psi d\tau^2 = 0$$

ナルニ方向ヲ円系表面上ニ考ヘルトキハソノ間ノ角 ω ハ

$$(6) \quad \frac{\sin \omega}{2\sqrt{(\partial_t \partial_t)(\partial_\tau \partial_\tau) - (\partial_t \partial_\tau)^2} \{\Phi^2 - \textcircled{H} \Psi\}^{\frac{1}{2}}}$$

$$= \frac{\cos \omega}{(\partial_t \partial_t) \Psi - 2(\partial_t \partial_\tau) \Phi + (\partial_\tau \partial_\tau) \textcircled{H}}$$

ヲ與ヘラルルガ故ニ

$$(7) \quad \Phi^2 = \textcircled{H} \Psi$$

ナラバ $\omega = 0$ ナルコト亦 $\omega = \frac{\pi}{4}$ ナラバ

$$(8) \quad (\partial_t \partial_t) \Psi - 2(\partial_t \partial_\tau) \Phi + (\partial_\tau \partial_\tau) \textcircled{H}$$

$$= 2\{(\partial_t \partial_t)(\partial_\tau \partial_\tau) - (\partial_t \partial_\tau)^2\}^{\frac{1}{2}} (\Phi^2 - \textcircled{H} \Psi)^{\frac{1}{2}}$$

ナルコトが余ル。